What is claimed is:

1. A method for manufacturing a stator with a radial winding, comprising the steps of:

providing a plurality of pole plates made of a magnetically conductive material, each said pole plate comprising a hub and at least two poles extending radially outward from the hub, said at least two poles being spaced by an identical angular interval, each of said at least two poles having a distal end with a magnetic pole face;

winding a metal wire around the poles of the pole plates, thereby forming a pole plate assembly; and

engaging at least two said pole plate assemblies together, the poles of said at least two pole plate assemblies being disposed alternately.

2. The method as claimed in claim 1, wherein the pole plate assemblies of even number are assembled together by aligning central holes of the pole plate assemblies and then inserting an engaging member through the aligned central holes.

3. The method as claimed in claim 2, the even-numbered pole plate assemblies and the engaging member are engaged together by fitting engagement.

4. The method as claimed in claim 2, wherein the engaging member includes a central hole for rotatably receiving a rotor.

5. A stator with a radial winding, the stator comprising at least two pole plate assemblies, each said pole plate assembly comprising a plurality of pole plates made of a magnetically conductive material, each said pole plate assembly comprising a hub having a central hole and at least two poles extending radially outward from the hub, the poles being spaced by an identical angular interval, each said pole having a distal end with a magnetic pole face, each said pole having a metal wire wound therearound.

6. The stator with a radial winding as claimed in claim 5, wherein a number of said at least two pole plate assemblies is even, further comprising an engaging member that extends through the central holes of the even-numbered pole plate assemblies that are aligned with each other, thereby engaging the even-numbered pole plate assemblies of even number

together with the poles of said at least two pole plate assemblies disposed alternately and spaced by an identical angular interval, the engaging member having a central hole for rotatably receiving a rotor.

7. The stator with a radial winding as claimed in claim 5, wherein each said pole plate assembly comprises more than one silicon-steel plate that are stacked together.

8. The stator with a radial winding as claimed in claim 6, wherein the magnetic pole face on the distal end of each said pole of each said pole plate assembly comprises a vertically extending inductive face.

9. The stator with a radial winding as claimed in claim 8, wherein the inductive face of each said pole plate assembly includes two ends, one of the ends of the inductive face of each said pole plate assembly having a chamfered edge.

10. The stator with a radial winding as claimed in claim 6, wherein the engaging member and each said pole plate assembly are in fitting engagement.

11. The stator with a radial winding as claimed in claim 6, wherein the engaging member includes a flange for preventing disengagement of each said pole plate assembly.

12. The stator with a radial winding as claimed in claim 6, wherein an inner periphery defining the central hole of each said pole plate assembly comprises at least one first groove, the engaging member comprising at least one second groove defined on an outer periphery thereof and facing said at least one first groove, further comprising a pin extending through said at least one first groove and said at least one second groove, thereby securing the engaging member and said at least two pole plate assemblies together.